

RCA UPDATE

September 5, 2023

**There's still time! Nomination packages due by
EOD September 5, 2023**



We want to hear your research story.

As part of our Big Idea Research Initiatives for the 2023-24 year, the Office of Research and Creative Activity (RCA) and the Faculty Research Council are issuing a call for October speakers for BisonSpark Talks.

All NDSU faculty researchers from every discipline across campus, assistant professor to tenured full professor, are invited to submit a nomination package for a BisonSpark Talk.

The nomination package should include a 2-minute zoom recording preview of the talk and include why your discipline matters to solving large economic or social challenges in one of [NDSU's priority research areas](#):

- Food, Energy and Water Security
- Cybersecurity, Computer Science and Software Engineering
- Life Sciences
- Entrepreneurship and Innovation

[Learn more and submit a package >>](#)

What is Responsible Conduct of Research (RCR) or Responsible and Ethical Conduct of Research (RECR)?

Several federal funding agencies require training and education in the responsible and ethical conduct of research. The National Institutes of Health (NIH), and USDA National Institute of Food and Agriculture (NIFA) refer to this as RCR Training, and the National Science Foundation (NSF) has termed it RECR.



Content requirements and applicability can vary as well between agencies, so how do you know what is expected?

The **Responsible and Ethical Conduct of Research** involves the awareness and application of established professional norms and ethical principles in the performance of all activities related to scientific research. In general terms,

responsible conduct in research is simply good citizenship applied to professional life.

AGENCY TRAINING REQUIREMENTS



[NSF](#) – As of July 31, 2023, RECR training requirements apply to faculty and other senior personnel as well as postdoctoral researchers, graduate and undergraduate students conducting NSF sponsored research.



[USDA NIFA](#) – RCR training applies to program directors, faculty, undergraduate students, graduate students, postdoctoral researchers, and any staff participating in the research project.



National Institutes
of Health

[NIH](#) - All trainees, fellows, participants, and scholars receiving support through any National Institutes of Health (NIH) training, career development award, research education grant, and dissertation research grant; or as otherwise stated in the relevant funding opportunity announcement must receive instruction in responsible conduct of research.

Responsible Conduct of Research training covers various topics, including research misconduct, data handling and ownership, mentorship responsibilities, publication ethics, peer review, collaborative research, conflicts of interest, and the protection of research subjects when applicable.

Online platforms for RCR training such as the CITI RCR Training modules provide a good basis for starting RCR or RECR training and help NDSU to document compliance with the agency requirements. However, agencies maintain that some level of **face-to-face instruction** (formal or informal) that is appropriate to the career level of the individual is necessary.

It's essential to note that RCR training requirements extend to all subawardees in

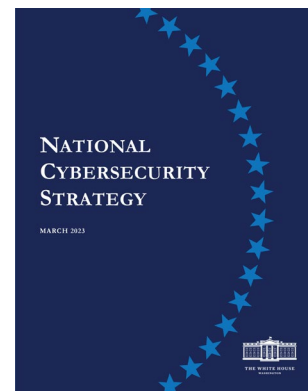
research projects. If you collaborate with an institution lacking its RCR training policy, you should contact Research Integrity and Compliance to establish an RCR training plan.

For further information and options for completing RCR training, visit the [RCA Responsible Conduct of Research](#) page or refer to [NDSU Policy 348](#). If you have questions, contact Kristy Shirley at Kristy.shirley@ndsu.edu or 701-231-8995.

Request for Information on Open-Source Software Security: Areas of Long-Term Focus and Prioritization

The Office of the National Cyber Director (ONCD), the Cybersecurity Infrastructure Security Agency (CISA), the National Science Foundation (NSF), the Defense Advanced Research Projects Agency (DARPA), and the Office of Management and Budget (OMB) invite public comments on areas of long-term focus and prioritization on open-source software security.

As highlighted in the [National Cybersecurity Strategy](#) and its Implementation Plan Initiative 4.2.1, the ONCD has established an Open-Source Software Security Initiative (OS3I) to champion the adoption of memory safe programming languages and open-source software security. The security and resiliency of open-source software is a national security, economic, and a technology innovation imperative. Because open-source software plays a vital and ubiquitous role across the Federal Government and critical infrastructure, vulnerabilities in open-source software components may cause widespread downstream detrimental effects. The Federal Government recognizes the immense benefits of open-source software, which enables software development at an incredible pace and fosters significant innovation and



collaboration. In light of these factors, as well as the status of open-source software as a free public good, it may be appropriate to make open-source software a national public priority to help ensure the security, sustainability, and health of the open-source software ecosystem.

This Request for Information (RFI) aims to further the work of OS3I by identifying areas most appropriate to focus government priorities, and addressing critical questions such as:

- How should the Federal Government contribute to driving down the most important systemic risks in open-source software?
- How can the Federal Government help foster the long-term sustainability of open-source software communities?
- How should open-source software security solutions be implemented from a technical and resourcing perspective?

Comments must be received in writing by 5 p.m. ET October 9, 2023.

[Learn more >>](#)

GORDON AND BETTY MOORE FOUNDATION

Moore Inventor Fellows

Supporting promising scientist-problem solvers with a passion for inventing

The Moore Inventor Fellows nurtures the next generation of scientists and supports scientist-inventors who create new tools and technologies with a high potential to accelerate progress in the foundation's areas of interest: scientific discovery, environmental conservation and patient care.

Beginning in 2016, the foundation allocated nearly \$34 million through 2026 to support 50 Moore Inventor Fellows – five fellows per year for ten years. Each fellow receives a total of \$825,000 over three years to drive their invention forward, which includes \$50,000 per year from their home institution as a commitment to these outstanding individuals.



[Learn more >>](#)



Adrienne Fried Block Fellowship

This fellowship, endowed in honor of Adrienne Fried Block, shall be given to support scholarly research leading to publication on topics that illuminate musical life in large urban communities. Preference shall be given to projects that focus on the interconnections among the groups and organizations present in these metropolitan settings and their participation in the wide range of genres that inform the musical life and culture of their cities.



No more than one award will be offered in each cycle. The amount of the award each cycle will vary depending on the interest generated by its endowment. The maximum award is \$3,000. Applicants must be members in good standing of the Society for American Music.

Deadline: November 1, 2023

[Learn more >>](#)

Hagley Prize in Business History

This prize is for the best book in business history (broadly defined) and consists of a medallion and \$2,500, which are presented at the annual meeting of the Business History Conference (BHC).



Given the nature of the award's funding and establishment (through the generosity of the Hagley Museum and Library of Wilmington, Delaware, one of the nation's most significant research libraries dedicated to the history of business), the Grants and Prizes Committee will advise the Hagley representative and the BHC President about who would be a suitable person to serve as the third member of the three-person selection committee.

The award committee encourages the submission of books from all methodological perspectives. It is particularly interested in innovative studies that have the potential to expand the boundaries of the discipline.

Scholars, publishers, and other interested parties may submit nominations. Eligible books can have either an American or international focus. They must be written in English and published during the two years prior to the award.

Deadline is November 30

[Learn more >>](#)

CCAST Advanced Research Computing Training Program

FREE training workshops offered by CCAST/NDSU. Pre-registration is required

The NDSU Center for Computationally Assisted Science and Technology ([CCAST](#)) is offering a workshop series to introduce advanced research computing to faculty, staff, and students at NDSU and beyond. This series aims to provide researchers with basic knowledge and hands-on skills that help them make the best use of local and national high-performance computing (HPC) facilities, and ultimately to advance their research capabilities.

Workshops will be offered both in person (preferred) and via Zoom, and will include lectures, demonstrations, and hands-on tutorials where participants will have opportunities to perform simple and not-so-simple tasks on CCAST's HPC systems. Recordings and workshop materials will be available for those who cannot attend live. There are no prerequisites, except a strong willingness to learn. Some familiarity with computer programming and Linux shell scripting would be helpful, but not required.

FALL 2023 SCHEDULE

Core training workshops

- **September 25, 1-3 PM: Introduction to high-performance computing (HPC)**
Basics of HPC, computer clusters, parallel computing, HPC resources at NDSU and elsewhere, access to CCAST's HPC systems
- **September 27, 1-3 PM: Linux for HPC: Working with Linux-based HPC systems**
Basics of UNIX/Linux, job scheduler, queue policies, running and monitoring jobs on HPC systems
- **September 29, 1-3 PM: Linux for HPC: Text processing and shell scripting**
Linux utilities for searching texts and manipulating text files, Bash shell scripting to automate tasks
- **October 2, 1-3 PM: How to get your work done faster? Parallel computing**
Parallel programming models, work distribution among CPU cores, parallel scaling performance, tips on running parallel jobs
- **October 4, 1-3 PM: Accelerated computing with GPUs**
Basics of graphics processing units (GPUs) and GPU programming, running scientific applications on GPU compute nodes

Attending all the core training workshops is strongly recommended if you are new to HPC and/or CCAST as basic HPC and Linux knowledge and skills is required for the special workshops.

Special training workshops

- **October 23, 1-3 PM: Running Python on HPC systems**
Running Python codes on CCAST HPC systems, available Python versions and where to find them, creating custom Python environments and installing packages, integrating with Jupyter Notebook
- **October 25, 1-3 PM: Running R on HPC systems**
Running R code on CCAST HPC systems, installing R packages, converting R code to run in batch jobs, parallel processing in R

- October 27, 1-3 PM: HPC for materials modeling and simulation**
 Running complex materials modeling software packages (VASP, Gaussian, NAMD, LAMMPS, etc.) properly and efficiently on HPC systems

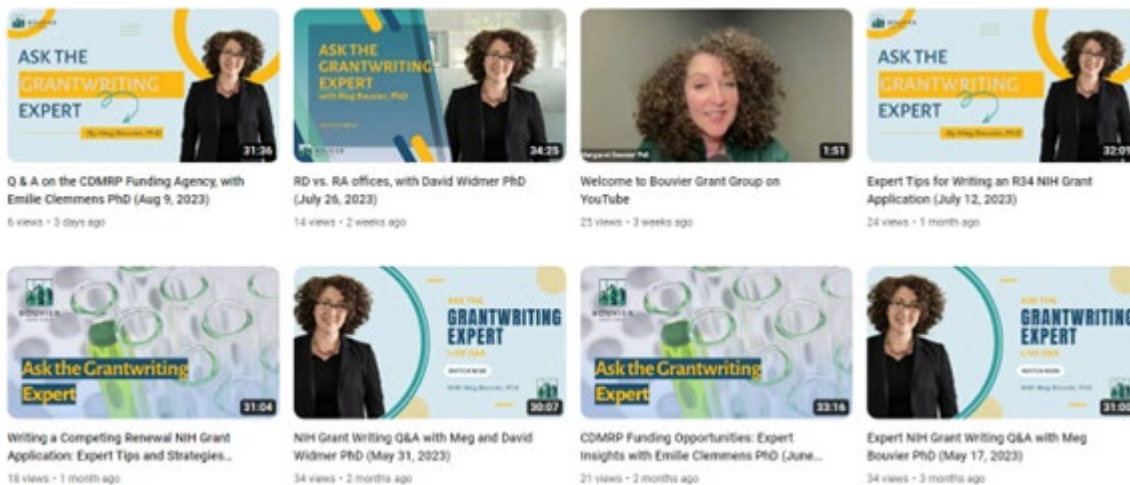
All trainings are FREE; however, pre-registration is required.

Deadline to register: September 18, 2023

[Register for CCAST trainings >>](#)

Watch Grant Writing Tips videos from the Bouvier Grant Group

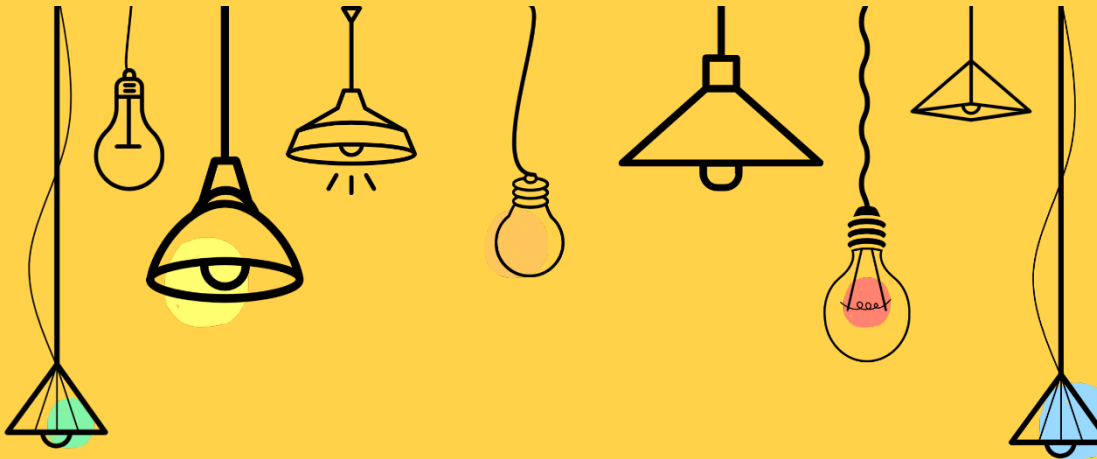
Ask the Grant Writing Expert is a live 30-minute drop-in video call series featuring Dr. Meg Bouvier giving mini-tutorials on common grant writing tips and tricks. Although attending the live call is a members-exclusive benefit, the recordings are now available to everyone via Bouvier's YouTube channel.



These recordings are full of practical training and each has been time-stamped and indexed so grantees can easily navigate to topics in seconds. New recordings are

posted to the channel at least once a month.

[Go to the Bouvier YouTube Channel >>](#)



Have a big, bright idea about research at NDSU?

It's important that we continually challenge each other to come up with ambitious, big ideas in our research endeavors at NDSU. So we'd like to hear your ideas, and the bigger they are, the better.

While we can't promise all of them will succeed, we welcome you to share them - from an early concept or thought all the way to developed ideas that may just need some collaboration - send us an email (bigideas@ndsu.edu) and get the process started.

Upcoming Events at a Glance

- **111th Meeting of the National Advisory Council for Nursing Research**
September 12, 2023 | [Learn More >>](#)

- **Consortium of Universities for Global Health**
Abstract Submission: September 15, 2023 | [Learn More >>](#)
- **I-Corps Updates Meeting**
September 14, October 5, November 2, December 7 | [Learn More >>](#)
- **NIH Office of Behavioral and Social Sciences Research Director's Webinar: The Theoretical and Practical Importance of Advancing Health Equity**
September 19, 2023 | [Register >>](#)
- **Partnerships for Innovation (PFI) Q&A Webinar**
October 3, December 2 | [Learn More >>](#)
- **Specialized Centers of Research Excellence on Sex Differences (SCORE) 2023 Annual Meeting Keynote Address**
November 3, 2023 | [Learn More >>](#)
- **Building Interdisciplinary Research Careers in Women's Health (BIRCWH) 2023 Annual Meeting**
December 5, 2023 | [Learn More >>](#)

Funding Opportunities

- [Colorado State University - High Plains Intermountain Center for Agricultural Health and Safety: Emerging Issues](#)
- [DoD: Minerva Research Initiative's Defense Education and Civilian University Research Partnership](#)
- [Electri International: RFP](#)
- [Getty Trust: Conservation Guest Scholars](#)
- [Microsoft: Accelerate Foundation Models Research](#)
- [NEH: Collaborative Research](#)
- [NEH: Media Projects](#)
- [NEH: Spotlight on Humanities in Higher Education](#)
- [NIH: Initiative to Maximize Research Education in Genomics: Diversity Action Plan](#)

- [NIH: Research Projects to Enhance Applicability of Mammalian Models for Translational Research](#)
- [NIH: Understanding and Mitigating Health Disparities Experienced by People with Disabilities caused by Ableism](#)
- [NSF: Applied Mathematics](#)
- [NSF: Cellular and Biochemical Engineering](#)
- [NSF: DCL - Fostering Harassment-Free STEM Education, Research, and Workplace Environments](#)
- [NSF: Disability and Rehabilitation Engineering](#)
- [NSF: Engineering of Biomedical Systems](#)
- [NSF: Organismal Response to Climate Change](#)
- [NSF: Plasma Physics](#)
- [NSF: Process Systems, Reaction Engineering, and Molecular Thermodynamics](#)
- [USDA: Specialty Crop Multi-State Program](#)

Upcoming Limited Submission Program Deadlines

[Limited submission grant programs](#) are those that indicate a limit on the number of proposals that may be submitted by an institution for a particular deadline. A selection process becomes necessary if more applicants express interest in applying than NDSU is allowed to submit to the grant program. Email notifications of interest to ndsu.researchdev@ndsu.edu by **close of business** on the notification deadline date.

If you identify a limited submission opportunity that is not on the list below, please notify ndsu.researchdev@ndsu.edu.

- [American Lung Association: Lung Cancer Discovery Award](#)

Notification Deadline: September 8, 2023

There are a number of limited submission grant programs with upcoming agency deadlines for which we did not receive any notifications of interest. For these programs, marked "**First to Notify**," approval to move forward with a full proposal submission to the funder will be given on a first come, first served basis.

- [Johnson and Johnson: The WiSTEM2D Scholars Award Program](#)

Deadline: 09/30/2023

Colorado State University - High Plains Intermountain Center for Agricultural Health and Safety: Emerging Issues

Emerging issues are defined as health risks that are new or have rapidly expanding impact in the immediate or near future. The [Emerging Issues Grant Program](#) is designed to provide a structure to identify issues of high priority for regional producers and the flexibility for HICAHS to respond rapidly. All funds awarded through the emerging issues grant program should be used to address priorities identified by HICAHS stakeholders including producers, extension agents, the HICAHS External Advisory Board, and other agriculture and forestry partners in the region. For a list of potential proposed projects please visit the website link above. The required proposal length is no more than 2 pages.

Deadline: accepted on a rolling basis

DoD: Minerva Research Initiative's Defense Education and Civilian University Research (DECUR) Partnership

The Office of the Secretary of Defense (OSD) is interested in receiving applications for Minerva's [DECUR Partnership](#). The DECUR Partnership aims to develop collaborative basic research partnerships between Professional Military Education (PME) Institutions and Civilian Research Universities by supporting fundamental scientific research that improves the capacity of security-related basic social science research and education. Building upon the success of Minerva's university research awards, the DECUR Partnership aims to pair civilian university researchers with PME faculty to facilitate collaborative research in the fundamental understanding of the social and cultural forces shaping U.S. strategic interests globally. OSD is particularly interested in projects that align with and support the [2022 National Defense Strategy](#).

Research Topics:

Topic 1: Socio-economic vulnerability to climate change

Topic 2: Deterrence in the future operating environment

Topic 3: Russian speakers in online spaces

Topic 4: Power and influence in the era of strategic competition

Topic 5: The Arctic as a polar crossroads

Topic 6: Management and information in the Defense environment

Deadline: White Paper October 4, 2023; 2PM



Electri International: RFP

ELECTRI International – The Foundation for Electrical Construction - invites [summary proposals](#) from research organizations, and/or individual researchers, consultants and subject matter experts interested in studying and reporting on topics related to Electrical Construction (EC). ELECTRI’s research selection process, via proposal submission and review, is open to any qualified organization or researcher interested in expanding the knowledge of electrical construction. ELECTRI’s goal is to have highly-qualified researchers and industry experts addressing important topics that will provide value to the electrical contracting industry and its stakeholders. The Foundation’s interests include business aspects of running an electrical construction company, managing projects, supply chain management, field operations, and electrical systems design. These interests encompass all aspects of electrical construction from building systems (including low voltage systems) to transportation and infrastructure, power generation, transmission, and distribution.

Deadline: Summary Proposal September 20, 2023



Getty Trust: Conservation Guest Scholars

Through the [Conservation Guest Scholars Program](#), Getty provides opportunities for established scholars or individuals who have attained distinction in their field. Recipients are in residence at the Conservation Institute for either a three-month or six-month residency, in which they pursue their own projects free from work-related obligations, make use of research collections at the Getty Center and Getty Villa, and participate with other Getty scholars, fellows, and interns in the intellectual life of Getty.

Deadline: October 2, 2023; 3PM



Microsoft: Accelerate Foundation Models Research

[Accelerate Foundation Models Research](#) (AFMR) is a research grant program through which Microsoft will make leading foundation models hosted by Microsoft Azure more accessible to the academic research community via Microsoft Azure AI services. The incredible performance of foundation models is disrupting every aspect of AI research and development. As industrial advances in AI continue to reach new heights research has been limited by access to industry-scale trained foundation models. In addition to ongoing research and model improvement, it is essential to include deep and diverse expertise and perspectives to comprehend foundation models' potential impact on science, individuals, and society and to explore their potential for additional real-life scenarios.

Microsoft is looking to accelerate AI research and the development of use cases that can complement human ingenuity by increasing availability of industry-scale foundation models. Through this program, we hope to re-imagine AI learning and research using foundation models while also exploring new use cases that can complement human ingenuity through diversified research expertise. The application is up to 2 pages in length.

Deadline: September 12, 2023



NEH: Collaborative Research

The [Collaborative Research](#) program aims to advance humanistic knowledge by supporting teams of scholars working on a joint endeavor. NEH encourages projects that incorporate multiple points of view, pursue new avenues of inquiry in the humanities, and lead to manuscripts for print publication or to scholarly digital projects. Proposed projects must aim to result in tangible and sustainable outcomes, such as a co-authored or multi-authored book; a themed issue of a peer-reviewed journal; a series of peer-reviewed articles; a born-digital publication; or an open-access website or other digital resource. All project outcomes must incorporate collaboration and interpretation to address significant humanities research questions.

The program includes four project categories:

1. Planning International Collaboration
2. Convening

3. Manuscript Preparation
4. Scholarly Digital Projects

Deadlines:

- *Optional Draft – September 18, 2023*
- *Final Deadline – November 29, 2023*

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NEH: Media Projects

The [Media Projects](#) program supports the development, production, and distribution of radio programs, podcasts, documentary films, and documentary film series that engage general audiences with humanities ideas in creative and appealing ways. Projects must be grounded in humanities scholarship and demonstrate an approach that is thoughtful, balanced, and analytical. Media Projects offers two levels of funding: Development and Production.

Deadlines:

- *Optional Draft – November 29, 2023*
- *Final Deadline – January 10, 2023*

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NEH: Spotlight on Humanities in Higher Education

The [Spotlight on Humanities in Higher Education](#) program supports the exploration and development of small projects that would benefit underserved populations through the teaching and study of the humanities at small and medium-sized colleges and universities. NEH invites applications from two- and four-year institutions of higher education, as well as from nonprofit organizations and state, local, or Native American Tribal governments aiming to advance the humanities at these institutions.

The program supports activities including but not limited to curricular or program development, expert consultations, speakers' series, student research, creation of teaching resources, and community engagement. Projects may benefit students, faculty, the institution or organization, and/or the community. The Spotlight program features a simplified application. You may request support at one of two levels: Exploration or Development.

Deadlines:

- *Optional Draft – September 6, 2023*
- *Final Deadline – October 18, 2023*

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NIH: Initiative to Maximize Research Education in Genomics: Diversity Action Plan (R25 Clinical Trials Not Allowed)

The overarching goal of this program [[PAR-22-268](#)] is to support educational activities that complement and/or enhance the training of a workforce to meet the nation's biomedical, behavioral and clinical research needs.

To accomplish the stated over-arching goal, this program will support educational activities with a primary focus on:

- Courses for Skills Development
- Research Experiences

Another overarching goal of this program is to support and integrate educational and mentorship activities that encourage individuals from diverse backgrounds, including those from groups underrepresented in the biomedical and behavioral sciences, to pursue further studies or careers in genomics research. This notice of funding opportunity seeks to expose undergraduate and post-baccalaureate level students to the foundational sciences relevant to genomics to enable them to pursue careers that span all areas of interest to National Human Genome Research Institute - genome sciences, genomic medicine, genomics and society, genomic data science, and genomics and health equity.

Deadline: Letter of Intent October 15, 2023

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NIH: Research Projects to Enhance Applicability of Mammalian Models for Translational Research (R01 Clinical Trial Not Allowed)

Through this Funding Opportunity (FO) [[PAR-23-281](#)], the National Cancer Institute (NCI) invites applications for projects to expand, improve, or transform the utility of mammalian cancer and tumor models for translational research.

The NCI, through this FO encourages submission of projects devoted to demonstrating that mammalian models, including organoids, tumoroids and cell models, used for translational research are robust representations of human biology, are appropriate to test questions of clinical importance, and provide reliable information for patient benefit. These practical goals contrast with the goals of many mechanistic, NCI-supported R01 projects that use mammals, or develop and use mammalian cancer models, transplantation tumor models, or models derived from mammalian or human tissues or cells for hypothesis-testing, non-clinical research. Among many other possible endeavors, applicants in response to this FO could propose demonstrations of how to overcome translational deficiencies of mammalian oncology models, define new uses of mammalian models or their genetics for unexplored translational challenges, advance standard practices for use of translational models, test approaches to validate and credential models, or challenge current practices for how models are used translationally.

Upcoming Deadlines: October 5, February 5, June 5...

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NIH: Understanding and Mitigating Health Disparities Experienced by People with Disabilities caused by Ableism

The goal of this Funding Opportunity (FO) [[RFA-HD-24-007](#)] is to encourage research to understand the impact of ableism on health outcomes. Research on the underlying mechanisms by which ableism adversely influences the health of persons with disabilities (PWD), as well as developing and/or testing interventions at a community or health systems level to mitigate adverse health effects of ableism are high priority. Ableism is often an extension to the medical model of disability – which views a person’s impairment is a problem to be fixed and any loss of function is attributed to the individual. In this context, disability may also be viewed as a failure of medicine and a trait to be eliminated. This FO encourages the use of the social model of disability. In this framework, disability is a consequence of environmental, social, and attitudinal barriers that may prevent people from fully participating in society, including receiving health care.

Deadline: Letter of Intent October 29, 2023

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NSF: Applied Mathematics

The Applied Mathematics program [[PD 16-1266](#)] supports mathematics research motivated by or having an effect on problems arising in science and engineering. Mathematical merit and novelty, as well as breadth and quality of impact on applications, are important factors. Proposals to develop critical mathematical techniques from individual investigators as well as from interdisciplinary teams are encouraged.

Proposals to the Applied Mathematics program for conferences or workshops should be submitted through the program solicitation "Conferences and Workshops in the Mathematical Sciences" using this [link >>](#).

Deadline: September 1-15, 2023

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NSF: Cellular and Biochemical Engineering

The Cellular and Biochemical Engineering (CBE) program [[PD 23-1491](#)] is part of the Engineering Biology and Health cluster, which also includes:

1. the Biophotonics program
2. the Biosensing program
3. the Disability and Rehabilitation Engineering program
4. the Engineering of Biomedical Systems program.

The program encourages highly innovative and potentially transformative engineering research leading to novel bioprocessing and biomanufacturing approaches. Fundamental to many CBE research projects is the understanding of how biomolecules, subcellular systems, cells, and cell populations interact, and how those interactions lead to changes in structure, function, and behavior. A quantitative treatment of problems related to biological processes is considered vital to successful research projects in the CBE program.

Major areas of interest for the program include:

- Metabolic engineering and synthetic biology for biomanufacturing,
- The design of synthetic metabolic components and synthetic cells,
- Microbiome structure, function, maintenance, and design,
- Protein and enzyme engineering, and
- Design of integrated chemoenzymatic systems.

The CBE program also encourages proposals that effectively integrate knowledge and practices from different disciplines while incorporating ongoing research into educational activities. All proposals should include a description on the potential impact of proposed research on an associated biomanufacturing process.

Deadline: Proposals are accepted ANYTIME

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NSF: DCL - Fostering Harassment-Free STEM Education, Research, and Workplace Environments

The focus of this Dear Colleague Letter (DCL) [[NSF 23-140](#)] includes all forms of harassment, whether based on gender or any other aspects of identity. The 2018 NASEM report, [Sexual Harassment of Women: Climate, Culture and Consequences in Academic Science, Engineering, and Medicine](#), classifies (sexual) harassment in three categories: (1) gender harassment (verbal and nonverbal behaviors that convey hostility, objectification, exclusion, or second-class status about members of one gender), (2) unwanted sexual attention (verbal or physical unwelcome sexual advances, which can include assault), and (3) sexual coercion (when favorable professional or educational treatment is conditioned on sexual activity). These categories can be either direct (targeted at an individual) or ambient (a general level of harassment in an environment).

With this DCL, NSF encourages two types of proposals:

1. Research projects that a) advance fundamental knowledge about the nature and underlying dynamics of sexual and other forms of harassment in STEM environments and b) inform anti-harassment efforts in STEM; and
2. Implementation projects to facilitate culture change and organizational policy structures to ensure safe and harassment-free STEM environments.

Some of the programs that accept proposals to do this work include:

- BIO: [NSF 22-542](#) Leading Culture Change Through Professional Societies of Biology (BIO-LEAPS)
- ENG: [NSF 22-514](#) Broadening Participation in Engineering (BPE), Tracks 1, 2, and 3.
- EDU: [NSF 20-554](#) ADVANCE Organizational Change for Gender Equity in STEM Academic Professions through the Partnership track. Proposals focused on any one or more STEM disciplines are accepted.
- GEO: [NSF 23-539](#) Cultural Transformation in the Geoscience Community (CTGC)

- SBE: [NSF 22-526](#) Ethical and Responsible Research (ER2)
- CISE: [NSF 21-571](#) Broadening Participation in Computing (BPC)
- TIP: Proposers are encouraged to contact the cognizant Program Director (PD) in their related TIP office or division. Once invited by the TIP PD, a proposal may be submitted pursuant to the current NSF PAPPG.

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NSF: Disability and Rehabilitation Engineering (DARE)

The Disability and Rehabilitation Engineering program [[PD 23-5342](#)] is part of the Engineering Biology and Health cluster, which also includes:

1. the Biophotonics program
2. the Biosensing program
3. the Cellular and Biochemical Engineering program
4. the Engineering of Biomedical Systems program.

The Disability and Rehabilitation Engineering program supports fundamental engineering research that will improve the quality of life of persons with disabilities through the development of new theories, methodologies, technologies, or devices. Disabilities could be developmental, cognitive, hearing, mobility, visual, selfcare, independent living, or other. Proposed projects must advance knowledge regarding a specific human disability or pathological motion or understanding of injury mechanisms.

Research may be supported that is directed toward the characterization, restoration, rehabilitation, and/or substitution of human functional ability or cognition, or to the interaction between persons with disabilities and their environment. Areas of particular interest are neuroengineering, rehabilitation robotics, brain-inspired assistive or rehabilitative systems, theoretical or computational methods, and novel models of functional recovery including the development and application of artificial physiological systems.

Deadline: Proposals are accepted ANYTIME

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NSF: Engineering of Biomedical Systems

The Engineering of Biomedical Systems program [[PD 23-5345](#)] is part of the Engineering Biology and Health cluster, which also includes

1. the Biophotonics program
2. the Biosensing program
3. the Cellular and Biochemical Engineering program
4. the Disability and Rehabilitation Engineering program.

The goal of the Engineering of Biomedical Systems (EBMS) program is to provide opportunities for fundamental and transformative research projects that integrate engineering and life sciences to solve biomedical problems and serve humanity in the long term. Projects are expected to use an engineering framework (for example, design or modeling) that supports increased understanding of physiological or pathophysiological processes. Projects must include objectives that advance both engineering and biomedical sciences.

Projects may include: methods, models, and enabling tools applied to understand or control living systems; fundamental improvements in deriving information from cells, tissues, organs, and organ systems; or new approaches to the design of systems that include both living and non-living components for eventual medical use in the long term.

Deadline: Proposals are accepted ANYTIME

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NSF: Organismal Response to Climate Change (ORCC)

This solicitation [[NSF 22-513](#)] calls for proposals that integrate the study of genomic, physiological, structural, developmental, neural, or behavioral mechanisms of organismal response to climate change (ORCC) with eco-evolutionary approaches to better manage the effects of a rapidly changing climate on earth's living systems. Specific areas of emphasis include but are not limited to: integrating physiology and genomics into the next generation of species distribution models; mechanistic understanding of plastic responses to climate change; functional genomics of organismal response to climate change; the role biological interactions play in organismal responses to climate change; and improving our ability to predict how organisms will respond to climate change and the consequences these responses will have across biological scales.

Proposals to the ORCC Solicitation are encouraged that build on NSF's investment in growing convergence research by developing integrative, cross-disciplinary approaches that examine the organismal mechanisms that underlie adaptive and maladaptive responses to environmental factors associated with climate change, how these responses

affect fitness in changing and/or novel climates, and the genetic and evolutionary processes through which these traits originate, persist, and are transmitted across generations. Further, this solicitation encourages creative approaches to translate results of these investigations to better predict and manage effects of climate change on organisms across spatial and temporal scales and biological hierarchies.

Deadline: November 21, 2023

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NSF: Plasma Physics

The Plasma Physics program [[PD 23-1242](#)] supports research that can be categorized by several broad, sometimes overlapping, sub-areas of the discipline, including: magnetized plasmas in the laboratory, space, and astrophysical environments; high energy density plasmas; low temperature plasmas; dusty, ultra-cold, and otherwise strongly coupled plasmas; non-neutral plasmas; and intense field-matter interaction in plasmas. The focus of the Plasma Physics program is to generate an understanding of the fundamental principles governing the physical behavior of a plasma via collective interactions of large ensembles of free charged particles, as well as to improve the basic understanding of the plasma state as needed for other areas of science and engineering.

Principal Investigators (PIs) are encouraged to consider including specific efforts to increase diversity of the plasma physics community and broaden participation of under-represented groups in Science, Technology, Engineering, and Mathematics (STEM) as Broader Impacts of proposed work. Development of new undergraduate and graduate plasma physics curricula, or curricula enhancement to include plasma physics topics in other courses, at institutions lacking such coursework is similarly encouraged.

Deadline: November 20, 2023

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NSF: Process Systems, Reaction Engineering, and Molecular Thermodynamics

The Process Systems, Reaction Engineering, and Molecular Thermodynamics program [[PD 23-1403](#)] is part of the Chemical Process Systems cluster, which also includes

1. the Catalysis program

2. the Electrochemical Systems program
3. the Interfacial Engineering program.

The goal of the Process Systems, Reaction Engineering, and Molecular Thermodynamics program is to advance fundamental engineering research on the rates and mechanisms of chemical reactions, systems engineering, and molecular thermodynamics as they relate to the design and optimization of chemical reactors and the production of specialized materials that have important impacts on society.

The program supports the development of advanced optimization and control algorithms for chemical processes, molecular and multi-scale modeling of complex chemical systems, fundamental studies on molecular thermodynamics, and the integration of these methods and concepts into the design of novel chemical products and manufacturing processes. This program supports sustainable chemical manufacturing research on the development of energy-efficient chemical processes and environmentally-friendly chemical products through concurrent chemical product/process design methods. Sustainability is also enhanced by research that promotes the electrification of the chemical process industries over current thermally-activated processes.

Deadline: Proposals are accepted ANYTIME

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USDA: Specialty Crop Multi-State Program

The U.S. Department of Agriculture (USDA), Agricultural Marketing Service (AMS), requests applications for the fiscal year (FY) 2023 [Specialty Crop Multi-State Program](#) (SCMP). AMS will competitively award funds to enhance the competitiveness of specialty crops through collaborative, multi-state projects that address the following regional or national level specialty crop issues: food safety; plant pests and disease; research; crop-specific projects addressing common issues; and marketing and promotion.

This announcement identifies the eligibility criteria for SCMP projects and applicants, and the application forms and associated instructions needed to apply for a SCMP grant. USDA promotes climate-resilient landscapes and rural economic systems, including tools to support agriculture, forests, grazing lands, and rural communities. AMS encourages applicants to consider including goals and activities related to mitigating or adapting to climate change in their project's design and implementation.

Deadline: December 22, 2023



Looking for more funding opportunities?



RCA subscribes to SPIN by InfoEd Global, a database of more than 40,000 funding opportunities. Through this subscription, SPIN is free for current NDSU faculty, staff, and students.

For more information and to access this database, visit the [SPIN page](#) on the RCA website. If you have questions, please contact ndsuh.researchdev@ndsuh.edu.

Have questions, ideas, or suggestions for the RCA Update?

[Contact Us](#)



The Office of Research and Creative Activity (RCA) sends bi-weekly emails to NDSU faculty and staff to provide current information on various topics including funding opportunities, grant program changes, research resources, deadlines, notices, and training.

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sexual orientation, or status as a U.S. veteran. Direct inquiries to: Equal Opportunity Specialist, Old Main 201, 701-231-7708 or Title IX/ADA Coordinator, Old Main 102, 701-231-6409.

We collectively acknowledge that we gather at NDSU, a land grant institution, on the traditional lands of the Oceti Sakowin (Dakota, Lakota, Nakoda) and Anishinaabe Peoples in addition to many diverse Indigenous Peoples still connected to these lands. We honor with gratitude Mother Earth and the Indigenous Peoples who have walked with her throughout generations. We will continue to learn how to live in unity with Mother Earth and build strong, mutually beneficial, trusting relationships with Indigenous Peoples of our region.